

Course Name: Forest Stand Improvement - Module	
Course Coordinator: State Forester	Course Number: MI0060

Overview:

This training module will focus on the basic elements of improving forest stands in Michigan. The participant will learn how to identify the client's objective(s) and how to inventory and evaluate a stand of trees to aid in determining what types of forest stand improvements may be needed. The participant will be able to evaluate the vigor (health) and stocking level of the forest stand, identify future crop trees and to determine which trees should be removed to improve quality and composition within the stand. The participant will learn how to assist a client plan and apply forest stand improvement, tree/shrub pruning and other conservation practices applicable to forestland.

This course is not intended to cover all aspects of forest management nor is it intended to provide the participant with information needed to be able to prepare a forest management plan. It will prepare the participant to evaluate a stand of trees to determine what improvements are needed and to assist the client determine whether or not professional forestry assistance will be needed. Proper documentation and use of appropriate planning tools such as Conservation Practice Standards, Conservation Design Sheets and other aids will be demonstrated.

Purpose:

To provide the trainee with necessary information and knowledge to plan, apply and properly document Conservation Practice Standards Forest Stand Improvement (666) and Tree/Shrub Pruning (660). The trainee will receive some exposure to other conservation practices applicable to forestland including: Tree/Shrub Site Preparation (490), Forest Trails and Landings (655), Tree/Shrub Planting (612), Riparian Forest Buffer (391), and Windbreak/Shelterbelt Renovation (650).

Prerequisites:

- Participants must have read and understood the following documents:
 - National Forestry Handbook, Parts 636.1 – Conservation Planning Process, 636.2 – Inventory Methods, 636.3 – Inventory Tools, and 636.4 – Planning Considerations
 - Forest Stand Improvement (666) Conservation Practice Standard
 - Forest Stand Improvement Conservation Information Sheet (666)
 - Forest Stand Improvement in Eastern and Bottomland Hardwoods Conservation Job Sheet (666-EBH)
 - Forest Stand Improvement in Northern Hardwoods and Pines Conservation Job Sheet (666-NHP)
 - Tree/Shrub Pruning (660) Conservation Practice Standard
 - Tree/Shrub Pruning Conservation Design Sheet (660)
 - MSUE Bulletin E-2769, Northern Hardwood Forest Management (<http://forestry.msu.edu/extension/extdocs/E2769.pdf>)
 - MSUE Bulletin E-1578, Improving Hardwood Timber Stands (http://michigansaf.org/ForestInfo/MSUElibrary/E1578_ImprHdwd.PDF)
- (Strongly recommended) Plant ID Trees and Shrubs Module, MI0029

Duration:

This is a two-part, two-day course. Part one is covered in the classroom (approximately 3 hours). Part two is conducted in the field (approximately 8 hours).

Target Audience:

All NRCS and conservation partnership employees who provide conservation planning assistance to forest land users.

Expected Outcomes:

The minimum conservation planning proficiency level expected of participants is “4. Apply independently – can perform independently unless special problems are encountered; only a general check of work is required.”

Resources Needed:Part 1 (classroom):

- Room with tables and chairs for 8-25 participants
- Computer with projector and a projector screen

Part 2 (field exercise):

- Even aged conifer stand, minimum 5 ac.
- Well- or over-stocked uneven-aged hardwood stand, minimum 5 ac. (field sites should be in close proximity to minimize travel)
- Copies of inventory sheets for appropriate forest types
- Basal area tool, e.g., wedge prism or angle gauge (one per every 4 participants)
- Diameter tape or Biltmore/Woodland information stick (one per every 4 participants)
- Compass (one per every 4 participants)
- Clipboard (one per every 4 participants) and paper, pencils, etc.
- Tree/shrub ID books/guides (one per every 4 participants)
- (recommended but optional) laptop computers for data summary (one per every 4 participants)

Outline for: Forest Stand Improvement - Module

Part 1 – Classroom

Review Outline of course and objectives

General forestry items

- Importance of forestry in Michigan

- Knowledge of local species

- Knowledge of local wood markets

- Forestry terminology and measurements

NRCS forestry policy and sources of forestry information

- National Forestry Manual

- National Forestry Handbook

- Practice Standards and Conservation Sheets

Purposes/benefits of FSI

Inventory methods and equipment

- Plot sampling

- Zigzag transects

- Point sampling

Types of Forest Stand Improvement

- Crop tree management

- Area-wide thinning

- Row thinning

- Vine removal

Pruning

Pre-planning for field exercise

- Gathering and interpreting site/soil information, including site index, limitations, CTSGs, etc.

- Discuss landowner objectives, other considerations or limitations

Part 2 – Field Planning Exercise

Complete the following for each site (in groups of 4 or 5)

- Inventory the site to determine current and optimum: species composition, average spacing, avg. trees/acre, and basal area.

- Assess all potential resource concerns (SWAPA)

- Analyze resource data collected in the field and remotely

- Formulate and evaluate alternatives

- Identify crop trees and cut trees on sample plot

- Group discussion of other potentially applicable conservation practices

- Group discussion of implementation and O&M, including safety

Group discussion and conclusion

Course evaluation